

Claims

We claim:

1. A method of forming an isolated pocket in a semiconductor substrate comprising:

5 providing a semiconductor substrate of a first conductivity type;
forming a field oxide layer at a surface of the substrate, the field oxide layer comprising a first section and a second section, the first and second sections being separated by an opening;

10 performing a first implant of a dopant of a second conductivity type opposite to the first conductivity type through the opening and through the first and second sections of the field oxide layer so as to form a deep layer of the second conductivity type, the deep layer comprising a deeper portion under the opening and shallower portions under the first and second sections of the field oxide layer;

15 forming a mask layer over the opening;

performing at least one additional implant of a dopant of the second conductivity type through the first and second sections of the field oxide layer, to form sidewalls in the substrate, the sidewalls extending from a bottom of the first and second sections of the field oxide layer, respectively, and into the deep layer, the mask layer preventing dopant from the at least one additional implant from
20 entering an area of the substrate below the opening, the deep layer and the sidewalls forming an isolation region that borders an isolated pocket of the substrate.